

Lawman and Mr Jacob Loftus of EIP. Also present were hearing assistant Nikki Dowell and the Examiner Benjamin Widdows. I am extremely grateful to Mr Hugues for attending the hearing and for providing his insight into the product which the patent applications are intended to protect.

The applications

- 5 The applications concern methods and systems for generating a user interface screen, specifically a user interface aimed at modernising a host-based “green screen” or text based application interface. A green screen presents only text based information and accepts only text input and is therefore limited in the interaction and functionality it can provide to a user. The applications aim to replace green screens with improved interfaces that comprise additional or modified features and functions, and enable easier and more intuitive interaction with the host without any code or infrastructure change to the underlying host. By so doing, the integrity of data and business rules on the host is maintained.
- 6 Screen scraping is used to read data from one or more host green screens. A rules engine module executes rules on the host screen data and creates modern user interface controls for a screen (or screens) and produces a modernised version of the screen(s) on a graphical user interface (GUI) screen. A rule may be a set of patterns and conditions that integrate host screen and custom control data. An exemplary rule given in the applications can identify data presented in a known date format (e.g., MM/DD/YYYY, DD/MM/YYYY, Month/Day/Year, or others) as a date and create a calendar object with the identified date from the green screen data highlighted. Other examples include identifying known address formats or currency. The rules are created/edited by a screen designer at design time, and this may be done using a wizard rather than direct coding.
- 7 The specification of GB1322120.5 builds upon that of GB1300966.7 by also referring to the use of web sockets to maintain live connection and enable asynchronous communication, the provision of an intermediate server to act as a proxy to isolate the host from the client and giving further details about screen design. The effect of these differences is that GB1322120.5 enables distributed remote clients, potentially of differing capability, to access the host.

The claims

- 8 Amendments to the claims of both applications were filed as “revised claims” on 19 November 2015 for consideration at the hearing together with an auxiliary set of claims for GB1300966.7 for consideration in the event that I am minded to refuse the revised claims of that application. The revised claims of GB1300966.7 comprise two independent claims 1 and 14; the revised claims of GB1322120.5 also comprise two independent claims 1 and 19. No formal assessment has been made with regard to other substantive issues in relation to these claims.
- 9 Revised claim 1 of GB1300966.7 reads:

A system for automatically updating a graphical user interface for accessing data on a host computer, the system comprising:

an interface generating module in communication with a virtual screen layout module, a rules engine module and a presentation layer module, the interface generating module being constructed and arranged to:

- receive text based screen data from a host computer comprising a processor that is arranged to accept only text commands;*
- determine a modification to be applied to the text based screen data;*
- generate a user interface screen including the text based screen data and the modification; and*
- cause the user interface screen to be displayed on a display,*

wherein the interface generating module is constructed and arranged to send the text based screen data to the rules engine module, the rules engine module being constructed and arranged to:

- apply rules to the text based screen data to determine whether a match exists;*
- when the match exists, generate a virtual control object associated with the match, the virtual control object comprising scraped text based screen data and being associated with a visual element of the user interface screen, the virtual control object implementing an interaction with the host computer; and*
- transmit the virtual control object to the virtual screen layout module, the virtual screen layout module being constructed and arranged to:*
 - create a screen interaction object for the virtual control object, the screen interaction object being arranged to handle screen interactions including at least cursor position data representing user mouse or touchscreen input; and*
 - send a new screen event including the screen interaction object to the presentation layer module,*

the presentation layer module being constructed and arranged to:

- create a user interface control associated with the text based screen data;*
- determine a placement for the user interface control, wherein the modification comprises the user interface control and the placement; and*
- place the user interface control on the user interface screen according to the placement.*

10 Claim 5 further defines the receipt of a user input and execution of an interaction with the host computer. Claim 11 further defines that the step of causing the user interface to be displayed may involve generating a webpage.

11 Claim 14 of GB1300966.7 is a method claim with equivalent steps to claim 1 and claim 15 relates to a computer program to carry out the method of claim 14. Auxiliary claim 1 is the same as above with the following highlighted changes:

A system for ~~automatically updating a graphical user interface~~ for accessing data on a host computer, the system comprising:

...
the interface generating module being constructed and arranged to:

...
cause the user interface screen to be displayed on a display for accessing data on the host computer through the interface,

...

- 12 Revised claim 1 of GB1322120.5 reads as follows. At the hearing Mr Lawman confirmed that the term in square brackets had been inadvertently omitted in the latest amendments:

A network system for converting a text based user interface of a host computer to a graphical user interface, the system comprising:

a host computer having a text-based interface that is arranged to provide only text-based data and accept only text commands, the host computer being constructed and arranged to process one or more applications;

a user interface system communicatively coupled to the host computer comprising:

an interface generating module in communication with a virtual screen layout module, a rules engine module and a presentation layer module; and

a client device communicatively coupled to the user interface system over a computer network,

wherein the user interface system is constructed and arranged to establish a web socket connection with the client device,

wherein the interface generating module of the user interface system is constructed and arranged to:

receive text based screen data from a host computer that is arranged to accept only text commands;

determine a modification to be applied to the text based screen data;

generate user interface screen including the text based screen data and the modification; and

cause the user interface screen to be displayed on the client device, wherein the interface generating module is constructed and arranged to send the text based screen data to the rules engine module,

the rules engine module being constructed and arranged to:

apply rules to compare the text based screen data to a rule to determine whether a match between the text based screen data and the rule exists;

when the match exists, generate a virtual control object associated with the match, the virtual control object comprising scraped text based screen data and being associated with a visual element of the user interface screen; and

transmit the virtual control object to the virtual screen layout module, the virtual screen layout module being constructed and arranged to:

create a screen interaction object for the virtual control object, the screen interaction object being arranged to handle screen interactions including at least cursor position data representing user mouse or touchscreen input; and

send a new screen event including the screen interaction [object] to the presentation layer module,

the presentation layer module being constructed and arranged to:

create a user interface control associated with the text based screen data;

determine a placement for the user interface control, wherein the modification comprises the user interface control and the placement; and

place the user interface control on the user interface screen according to the placement, wherein the client device is constructed and arranged to render the user interface screen based on instructions received via the web socket connection from the user interface system.

- 13 Claim 19 of GB1322120.5 is a method claim with equivalent steps and claim 20 relates to a computer program to carry out the method of claim 19.

The law

- 14 The relevant provision of the Act in relation to excluded subject matter is Section 1(2), which reads:

1(2) It is hereby declared that the following (among other things) are not inventions for the purposes of this Act, that is to say, anything which consists of -

- (a) a discovery, scientific theory or mathematical method;*
- (b) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever;*
- (c) a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer;***
- (d) the presentation of information;***

*but the foregoing provision shall prevent anything from being treated as an invention for the purposes of this Act only to the extent that a patent or application for a patent relates to that thing **as such**.*

- 15 In order to decide whether an invention relates to subject matter excluded from patentability under Section 1(2), the Court of Appeal has said that the issue must be decided by answering the question of whether the invention reveals a technical contribution to the state of the art (from *Symbian*¹ and *Aerotel*²). The Court of Appeal in *Aerotel* set out the following four-step approach to help decide the issue:

- 1) *Properly construe the claim;*
- 2) *identify the actual (or alleged) contribution;*
- 3) *ask whether it falls solely within the excluded subject matter;*
- 4) *check whether the actual or alleged contribution is actually technical in nature.*

- 16 The operation of this test is explained at paragraphs 40-48 of the judgment. Paragraph 43 confirms that identification of the contribution is essentially a matter of determining what it is the inventor has really added to human knowledge, and involves looking at substance, not form, of the invention as defined in the claim when considered as a whole. Paragraph 46 explains that the fourth step of checking whether the contribution is technical may not be necessary because the third step should have covered the point.

¹ *Symbian Ltd. v Comptroller-General of Patents* [2008] EWCA Civ 1066

² *Aerotel Ltd v Telco Holdings Ltd and Macrossan's Application* [2006] EWCA Civ 1371

17 In *Symbian*, the Court of Appeal stated that a computer program may not be excluded if it makes a technical contribution. The judgment in *AT&T/CVON*³ provided guidance in the form of a number of signposts which may indicate that a computer program provides a technical contribution. The signposts were updated in *HTC v Apple*⁴ and are considered as follows:

i) whether the claimed technical effect has a technical effect on a process which is carried on outside the computer;

ii) whether the claimed technical effect operates at the level of the architecture of the computer; that is to say whether the effect is produced irrespective of the data being processed or the applications being run;

iii) whether the claimed technical effect results in the computer being made to operate in a new way;

iv) whether the program makes the computer a better computer in the sense of running more efficiently and effectively as a computer;

v) whether the perceived problem is overcome by the claimed invention as opposed to merely being circumvented.

18 Mr Lawman agreed that following these precedents and guidance was the correct approach to take.

Arguments and analysis

19 The first two steps of the *Aerotel* test are common when deciding whether the application relates to a program for a computer or the presentation of information.

Step 1: Properly construe the claim

GB1300966.7

20 Construing the claims presents no problems. Claim 1 defines a system for accessing data on a host computer comprising an interface generating module in communication with a virtual screen layout module, a rules engine module and a presentation layer module. The interface generating module receives scraped screen data from the host computer and sends this to the rules engine module; determines a modification to the screen data comprising a user interface control and its placement; generates a user interface screen and displays the user interface screen. The rules engine module applies rules to screen data, generates virtual control objects comprising screen data and transmits the virtual control objects to the virtual screen layout module. The virtual screen layout module creates screen interaction objects to handle screen interactions including at least cursor position data representing user mouse or touch-screen input for the virtual control objects and sends screen events including the screen interaction objects to the presentation layer module. The presentation layer module is arranged to create the user interface control associated with the text based screen data, determine the placement for the user interface control and place the user interface control on the user interface screen according to the placement.

³ *AT&T Knowledge Ventures LP and Cvon Innovations Ltd v Comptroller General of patents* [2009] EWHC 343 (Pat)

⁴ *HTC Europe Co Ltd v Apple Inc* [2013] EWCA Civ 451

GB1322120.5

- 21 The claims are again readily construed provided the term “object” is inserted as indicated above and as agreed at the hearing to be the correct formulation of the claim. Claim 1 defines a network system for converting a text based user interface of a host computer to a graphical user interface comprising a host computer, a user interface system communicatively coupled to the host computer and a client device communicatively coupled to the user interface system over a computer network, wherein the user interface system establishes a web socket connection with the client device which renders a user interface screen based on instructions received via the web socket connection from the user interface system. The user interface system further comprises an interface generating module in communication with a virtual screen layout module, a rules engine module and a presentation layer module as defined above with regard to GB1300966.7.

Step 2: Identify the actual (or alleged) contribution

GB1300966.7 and GB1322120.5

- 22 The applications describe enabling automatic and customisable modification and/or replacement of green screens with improved interfaces that may comprise additional and/or enhanced features. These interfaces may provide additional functionality and/or enable easier and/or more intuitive interaction with the host than a standard green screen.
- 23 At the hearing Mr Hugues described the actual product which these patent applications are intended to protect and how it can enable interaction with green screen applications on more than one host computer⁵ with a single client based emulation application. He also described the difference between the two applications.
- 24 Mr Hugues highlighted the difficulties and risks associated with prior approaches which the current systems address. The product allows for the creation of user interfaces for host systems which are not bound to the workflow (navigation through menus and screens, in a specific order, to enter and retrieve required data) of the host system and yet does not change the host system itself. Specifically he referred to the potential for previous approaches to undermine the integrity of the green screen application and associated business rules. Although not explicit in the applications, I accept this may be implicit given the host is unchanged. He explained that the product can integrate with external functions, such as a phone to enable the user to click on a button in the application to dial the phone number of a client. No evidence for these further assertions being supported by either application was provided at the hearing. While I accept that they may be apparent to the skilled reader (and I make no determination on that point), the only support I have been able to readily identify for integration with external functions is the provision of execute buttons which may run external applications or RDE (Rumba Developer Edition) code provided through add-ons. Of course if these advantages are implicit to the skilled person, they are not added to the stock of human knowledge and may not be part of the actual contribution.

⁵ This feature does not seem to be supported by either application.

- 25 Mr Hugues then set out what he saw as the differences between the applications in GB1300966.7 and GB1322120.5. He explained that the system in GB1300966.7 provides for the client and host to interact directly with the emulation application being on the client, whereas in GB1322120.5 a server is used to facilitate communications between the client and the host using web sockets. He explained that the emulation application is still provided on the client, and the server is secure, so that the data transmitted across the network by the server is formatted green screen data. GB1322120.5 however paints a subtly different picture, with a user interface (UI) system being provided separately from the client and the host (mainframe). The UI system includes the rules engine and other modules and is configured to receive green screen data from the host, determine modifications to be applied and generate UI instructions which can be transmitted to the client for display. Embodiments of GB1322120.5 may also use an intermediate server acting as a proxy to isolate the host from the client and this is a feature of claims 15 and 16 dependent on claim 1 of the revised claims. Furthermore, the description of GB1322120.5 also refers to optionally rendering the UI on the client but this is not claimed.
- 26 Whilst I am very grateful to Mr Hugues for the explanation of the context and benefits of the product, my assessment of the patentability of the patent applications is necessarily based on the applications as they stand, and as the skilled reader would interpret them.
- 27 Mr Lawman proposed the following contribution for GB1300966.7 in skeleton arguments submitted on 19 November 2015. At the hearing he stressed that the contribution concerned a new system much like the new arrangement of hardware found in *Aerotel*:
- An automated system to facilitate access to a host including by generating a graphical user interface to replace a text-based (green screen) interface of the host, by inspecting the text-based interface and using rules to define objects (functional code) that facilitate the user interactions within a graphical user interface (GUI) without needing to recode the legacy application and with reduced risk of undermining or subverting the underlying integrity and security of the respective legacy system.*
- 28 Whilst there is much common ground between the contribution identified by the examiner in his letter of 14 September 2015 and Mr Lawman's proposed contribution above, Mr Lawman's contribution is cast more broadly omitting several claimed features, and rather liberally emphasising others. For example, the applications refer to "automatic modification or replacement of green screens", meaning the graphical user interface may be dynamically created from green screens, according to rules and configuration options determined previously. The automation referred to in the alleged contribution is not quite so specific.
- 29 On balance, although the contribution formulated in the skeleton argument and put forward at the hearing could be tied more closely to the claim, I consider it reasonable when interpreted in the context of the application. In the event that I conclude that this contribution is not wholly within an excluded field I will need to remit the case to the examiner to establish whether the claims are novel and inventive. Only when this is settled can the alleged contribution be deemed to be

consistent with what the applications disclose has really been added to the stock of human knowledge.

Step 3 (i) Presentation of information

GB1300966.7 and GB1322120.5

- 30 In the skeleton arguments and at the hearing Mr Lawman indicated that although the GUI produced by the system and presented to a user needn't be the same as in the prior art, there was no essential material difference in the GUI arising from the contribution compared to those of the prior art. I therefore conclude that the contribution concerns means by which information is presented, rather than the presentation of information itself, and that the contribution does not lie in the presentation of information as such.

Step 3 (ii): Program for a computer

GB1300966.7

- 31 I will now consider whether the contribution defined by the revised claims of GB1300966.7 falls solely within the excluded subject matter as a program for a computer. Claim 15 is directed to a computer program and the invention defined in claims 1 and 14 undoubtedly uses a computer program for its implementation.
- 32 Mr Lawman proposed that it is easy to look narrowly at the signposts from *AT&T/CVON* in the context of the decisions upon which they are based, such as *Vicom*⁶, and draw the conclusion that the signpost does not apply because this application is factually different from the invention in each case. Instead he suggested that I should look more generally at the signposts as the Judges in *HTC v Apple* had. I agree with this proposition with the proviso that it is equally easy to look too generally at the signposts to a degree that would lead to different conclusion in decided cases; this very point was made at [30] to [36] of *Really Virtual*⁷. The signposts are no more than that, signposts, and are guiding not determinative; decisive is what technical contribution the invention as defined in the claim when considered as a whole makes to the known art and each case is to be assessed on its own merits.
- 33 At the hearing Mr Lawman made further reference to *HTC v Apple* drawing upon the conclusions therein to propose that inventions which made computers easier to program are not excluded. It is true that some inventions which make a computer easier to program are not excluded but it cannot be right that any invention which could be generalised as contributing to a means by which the burden on programmers is reduced is not excluded. In *HTC v Apple* the contribution provided an effect which made the computing device easier to program in relation to any, and all, programs written for that device. In contrast the present application discloses that using the claimed system it is easier to customise a green screen emulation UI system to replace the specific green screens of a host program. It does not make the computer(s) easier to program per se.

⁶ *Vicom Systems Inc T0208/84* [1987]

⁷ *Really Virtual v UK Intellectual Property Office* [2012] EWHC 1086 (Ch)

- 34 With regard to signpost (i) Mr. Lawman argued that the contribution has an effect outside of the computer (or system of computers) based on a number of assertions made with reference to the identified prior art. He said that *“a developer no longer has to reprogram any middleware software, for example, for a newly received green screen interface – this is an effect outside of the system i.e. reducing the workload of programmers”*. He explained that the system can be configured so as to process a new green screen and present a GUI to the user in accordance with the rules engine and the presentation layer module. This means that a programmer no longer needs to reprogram middleware specifically for a new green screen interface as in the prior art. Although the exemplary rules suggest that green screen data such as dates, addresses and monetary values would be automatically recognised, the placement of user interface controls on the GUI would need to be designed. In other words, although the rules engine and virtual control objects enable user interface controls to be re-used, some GUI design is still required. Is the labour-saving a *technical* effect? In the words of Mr Lawman, the work required of the application programmer is reduced and the user is unaware of any change of operation. It may represent a saving of programmer time, money and effort, and minimise any impact on the end user, but that is an advantage to human resourcing, not a technical effect.
- 35 In relation to signpost (ii) Mr. Lawman argued in the skeleton that *“there is clearly an effect which is produced irrespective of the application being run on the host machine, for example, because there is no need to reprogram the UI system for each green screen application being executed on the host”*. He elaborated at the hearing that the system works with any backend host. However he did not argue that the technical effect operates at the level of the architecture of the computer, instead pointing out that the system *“can have multiple hosts – it doesn’t care”* and is *“ubiquitous”* given one or more green screens. This is a reflection of the system being configurable for the host system⁸ and green screen applications and its ability to handle new green screens without the need for reprogramming. Although I agree with Mr Lawman’s assertion that the contribution goes beyond *“just processing a text based user interface”*, it does not operate at, and does not provide a technical effect at, the level of the architecture of the computer. The contribution is as result of the system being configurable to work across different data being processed and different green screen applications being run, but the effect is entirely dependent upon the appropriate configuration of rules and virtual control objects; it is not produced irrespective of the data or host application. At the hearing Mr Lawman confirmed that *“our invention isn’t an operating system level thing”*. I agree. My conclusion is that this signpost is not met.
- 36 Signpost (iii) requires the computer being made to operate in a new way. Mr Lawman’s argument proposed that the *“manner by which the GUI is defined and instantiated is new and hence the computer generating the GUI is being made to operate in a new way”*. He also said that the *“entire system is able to operate on the basis of a rules engine without the intervention of a programmer, once associated rules have been provided”*. This may be true, but I do not think it suggests the computer operates in a new way, except at a *“system level”* which Mr Lawman conceded. On this basis, any new system, programmed differently, will operate in a new way. This is the effect of running a new application on a general purpose

⁸ Contrary to Mr Lawman’s assertion, I again observe that there is no support in the application for the system being operable with multiple hosts at a time

computer. Unless the operation of the computer itself is new, there is no technical effect. Mr Lawman sought to emphasise his argument by directing me to paragraphs 46 and 57 of *AT&T/CVON* which reasons that making “*formats compatible which were once incompatible*” is indicative of a technical problem. By extension, he argued, making two previously incompatible formats compatible in a safe and reliable manner is indicative of a technical effect. The distinction “in a safe and reliable manner” is necessary to distinguish the effect from the prior art. I am not sure that the green screen and GUI formats really are necessarily incompatible in the *AT&T/CVON* sense. It seems that if they were apparently incompatible, then known programming techniques could be employed to overcome them. What the current application contributes is a new way of using these techniques to ensure compatibility by configuring rules and virtual control objects to avoid reprogramming. By avoiding reprogramming, risks to safety and reliability are reduced. These may reflect a better system, but they do not indicate that there is a technical effect because the computer is being made to operate in a new way.

37 Signpost (iv) is said to be met because the alleged contribution “*provides a far more efficient way of accessing host data given the constraints and security issues that are prevalent when dealing with legacy systems*”. Specifically the provision of “*a client GUI with reduced risk of undermining or subverting the underlying integrity and security of the respective legacy system provides a far more effective computing system overall*” and “*the ability to constrain input data via the GUI in ways that were not available to green screen systems (e.g. using date pickers, etc.) also provides a far more effective system overall*” are alleged. The former of these suggestions is made with reference to certain of the prior art legacy emulation systems which modify the host or middleware as part of their implementation and thereby introduce the described risk. Neither the alleged contribution nor the claims refer to constraining input data; user input is a feature of claim 5 but it is not constrained. Even if the feature of constraining input data (e.g. when using a date picker to ensure validity) is regarded as implicit, these advantages reflect the integrity of data and business rules, not the efficient and effective operation of a computer. The effect is as a result of the rules engine and virtual control objects which avoid reprogramming, and enable validation or formatting of input data. This is not indicative of the computer as a whole running any differently. Rather the computer runs the application, and the application addresses constraints and security issues of the prior art by enforcing business rules. The system provides advantages, but the computer itself does not run more efficiently or effectively. This signpost is not met.

38 The discussion of signpost (v) in the skeleton arguments again refers to the risks associated with certain of the prior art legacy emulation systems which modify the host as part of their implementation and concludes that as these problems have been overcome the signpost is met. At the hearing Mr Lawman clarified that the problem was about efficiently updating a user interface and making changes to a workflow of a host system whilst maintaining integrity of the host system. He cited *HTC v Apple* and argued that a system which overcomes a difficulty in programming can satisfy the signpost. The “difficulty” addressed by the current application concerns the configurability of green screen emulators and reducing their need to be reprogrammed, whilst maintaining host data integrity. Neither problem identified resides with the computer per se; the problem arises from prior art systems, or is concerned with maintaining business rules. The question is whether the problem is

technical, and whether what has been added to the stock of human knowledge to overcome it is a technical contribution. The solution provided by the current application is to configure rules and implement virtual control objects in a system which thereby reduces the need for reprogramming and can constrain data entry. These measures are implemented by the claimed invention whilst leaving the host system and potentially the GUI unchanged. Rather than enhancing security or authentication they seem to circumvent the requirement to do so. This does not mean the system is not better, but neither does it point to a technical problem being overcome as opposed to circumvented. During his demonstration, Mr Hugues cited the example of a user placing a repeat order for hazardous materials within an illegal timescale. By avoiding the need to reprogram the host system, the risk of inadvertently changing the business rules enforcing the legal requirement limiting periods between repeat orders is avoided. The business rules and data integrity are no more secure; the problem is circumvented rather than overcome. This signpost is not met.

- 39 As I indicated above decisive is what technical contribution the invention as defined in the claim when considered as a whole makes to the known art. The invention as defined in claim 1 as a whole relates to a UI system which facilitates interaction with a legacy host system providing a modern user interface utilising rules to identify data in “green screens” of a program running on the host and to present it to the user, which is characterised by the program modules provided and their interaction. Considered as a whole the invention as defined in claim 1 does not provide the required technical contribution and is therefore excluded as being a program for a computer as such. It follows that the same is also true of claims 14 and 15; no arguments have been advanced that could give rise to a different conclusion in relation to other features found in the dependent claims or description of GB1300966.7.
- 40 The auxiliary claims were said to reframe the context of the contribution at the hearing but it was agreed that in substance they are the same as the main claims and the contribution is the same. Having fully considered the auxiliary claims I arrive at the same conclusion for each signpost. The auxiliary claims also define a program for a computer as such and are excluded from patentability.

GB1322120.5

- 41 Following on from the analysis of GB1300966.7, I will now consider whether the contribution of GB1322120.5 falls solely within the excluded subject matter of a program for a computer. Claim 20 is directed to a computer program and again the invention in claims 1 and 19 are undoubtedly implemented using a computer program.
- 42 The discussion of this application at the hearing and in skeleton arguments focused on the contribution being the same as that of GB1300966.7 *plus* the features concerning web sockets and the provision of host access to remote computers, again stressing that the contribution was a system. At the hearing Mr Hugues referred to GB1322120.5 also including an intermediate server and client-side processing benefitting from a reduction in server load. The latter is consistent with addressing one of the problems set out in the application, which describes the limitations of prior art solutions using HTTP 1.1. These advantages would seem to

be the *expected* benefits of using asynchronous communication and full duplex channels. As I have already indicated, the independent claims define neither an intermediate server, nor the provision of the UI system on the client. Instead they refer to “*a client device communicatively coupled to the user interface system over a computer network*”. I do not think the benefits he alluded to then, can be attributed to or form a part of the alleged contribution.

- 43 In relation to the use of web sockets it is stated in the skeleton arguments that the “*web socket connection allows the GUI to be updated and rendered on the client device in a live fashion*” and from this the conclusion is drawn that the third signpost is met. Little more was made of this feature during the hearing. Web socket protocol provides full-duplex communications channels over a single transmission control protocol (TCP) thereby allowing a server to update information at a client in real time. The advent of web socket protocol did originally facilitate the operation of client-server systems in a new way. However the subsequent use of web sockets in any given application, and so in the instant case of interfacing with legacy systems, does not confer the same contribution anew. The technical contribution is already within the stock of human knowledge and although it may be applied differently, it gives rise to the expected benefits. It is the user interface system which is operating in a new way, not the computer or the way data is delivered to the application.
- 44 It is tempting to look on the features concerning the arrangement of hardware including an intermediate server and client-side processing proposed in relation to GB1322120.5 and conclude that there may be a technical effect arising from the use of a new arrangement of hardware as was found in *Aerotel*. This argument is not without merit, however caution is needed in view of the subsequent decision in *Aerotel v Wavecrest*⁹ that such an arrangement was, as it turned out, known and that therefore the claimed invention was excluded.
- 45 On the one hand such a potential new arrangement of hardware could provide the requisite technical contribution and if so I should remit the case to the examiner to verify that such an arrangement is indeed a contribution. On the other hand, the application (from page 8, line 29 to page 9, line 2) provides such limited discussion of how to implement the system using an intermediate server, as acknowledged at the hearing, that one could conclude that in order to be considered sufficient, such arrangements must be conventional and would be known to the skilled reader. Consequently the limited description of these features points firmly to them being conventional and therefore not providing the requisite technical contribution.
- 46 I acknowledge that Mr Hugues’ explanation of the operation of the system added considerable detail about the arrangement of hardware, in particular to the ability to deliver the GUI and render it on different devices using web sockets. These devices may be touch screen devices and/or mobile devices which would enable enhanced user interaction with the host system from remote locations. However, many of the details explained at the hearing are not described in the applications. I cannot speculate on the merits of this argument where it departs from the application as filed and as amended. On the basis of the application as it stands, the identified contribution does not fall outside a program for a computer as such.

⁹ *Aerotel Ltd v Wavecrest Group Enterprises Ltd & Ors* [2008] EWHC 1180 (Pat)

Step 4: Check whether the alleged contribution is actually technical in nature.

GB1300966.7 and GB1322120.5

- 47 Having assessed this step throughout my considerations of GB1300966.7 and GB1322120.5 set out above I conclude that the alleged contribution in both applications is not actually technical in nature.

Conclusion

- 48 I have fully considered the applications as they stand and the arguments put before me at the hearing. Some of the arguments and a good deal of the explanation of how the product works, its advantages and the problems said to be solved, rely on details which were explained but which are not supported by the applications as filed. In identifying the contribution, I am obliged to consider only the substance of the claimed invention which, albeit broadly, the alleged contribution reflects. Notwithstanding the additional information Mr Hugues explained at the hearing however, which cannot be relied upon when construing the claims, I conclude that there is no basis in either application for an amendment to the claims which could provide a technical contribution.
- 49 I find that the claimed invention in GB1300966.7 is excluded under Section 1(2)(c) because it relates solely to a program for a computer as such. I therefore refuse the application under Section 18(3).
- 50 I also find that the claimed invention in GB1322120.5 is excluded under Section 1(2)(c) because it relates solely to a program for a computer as such. I therefore refuse the application under Section 18(3).

Appeal

- 51 Any appeal must be lodged within 28 days after the date of this decision.

Ben Buchanan

Deputy Director, acting for the Comptroller